

# PRELIMINARY ISSUE

Work Order ID 63047

Tuesday, October 19, 2010 9:12:09 AM

Page 1

Item ID: D4092-1

Accept

Revision ID:

Item Name: Maintenance Step

Start Date: 10/19/2010 Start Qty: 4.00

Required Date: 10/26/2010 Req'd Qty: 4.00

Reference:

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date: 10-10-10 Tooling:

Date:

QC:

Date: SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4092	2

100 Cut blanks as per folio

0.00

Bandsaw

Jeaspa Bandsaw

Memo

0.00

B.A 10/11/01

4

0

110

HAAS 1

HAAS CNC vertical machine #1

Memo

Mill as per Dwg and Folio FA935

Dwg Rev:

Folio rev:

0.00

0.00

4

1

170

Deburr

SA 10/11/01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D4092-1 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: NA Date: 10.11.08  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: <u>63047</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/11/01	110	1 part machined too deep Part not sitting in vice properly R.C. lack of attention	<u>10.10.01</u> <u>on 01/02</u>	Scrap - destroy - replace Qty 1 Batch: 8323	<u>SA</u> <u>10/11/01</u>	<u>B.A</u> <u>10/11/01</u>	<u>10.10.01</u> <u>05/01/02</u>	<u>10/11/02</u>

NOTE: Date & initial all entries

**Work Order ID 63047**

Tuesday, October 19, 2010 9:12:09 AM

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Setup Start

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Stop

Item Name: Maintenance Step

Start Date: 10/19/2010 Start Qty: 4.00

Cust Item ID:

Required Date: 10/26/2010 Req'd Qty: 4.00

Customer:




Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  QC Quality Control	QC2- Inspect parts off machine FAI/FAIB  Memo SA 10/11/01	0.00 0.00				4	1		
130  QC Quality Control	QC8- Inspect parts - second check  Memo 10-11-15 pa prelim RW FBI	0.00 0.00		A.A 10/11/01		4	0		
140  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1  Memo	0.00 0.00		=> J 10/11/02		4	0		

**Abstract**

Page 3

**Accept**

[illegible]**Setup Start**

## Start

**Stop**

**Cust Item ID:**[illegible]

**Customer:**

**Reference:**

Run Start

**Stop**

**Approvals:**

### Process Plan:

Date:

**Tooling:**

Date:

**QC:**

Date:

**SPC (Y/N):**

**Date:**

0.00

0.00

0.00

0.00

0,00

## Tool ID

**Tool #**

**Plan  
Code**

Accept  
Qty

Reject  
Qty

## Reject Number

**Insp.  
Stamp**

4

✓ 10.11-2

x4

25/11/03 (4)

**Work Order ID 63047**

Tuesday, October 19, 2010 9:12:09 AM



Page 4

Item ID: D4092-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Maintenance Step

Start Date: 10/19/2010 Start Qty: 4.00



Cust Item ID:

Required Date: 10/26/2010 Req'd Qty: 4.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

170

Identify as per dwg & Stock Location: 6-A

0.00



Packaging

Memo

B62562 (2x)  
B62803 (2x)

0.00

Packaging

ES 10/11/03 (4)

180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10.11.16 est only P81

POSITIVE RECALL

EFFECTIVE 10-11-07 AUT

RELEASED \_\_\_\_\_ DATE \_\_\_\_\_

MF  
10-11-3

# Picklist Print

Tuesday, October 19, 2010 9:12:14 AM

Page 1

Work Order ID: 63047

Parent Item: D4092-1

Parent Item Name: Maintenance Step





Start Date: 10/19/2010

Required Date: 10/26/2010

Start Qty: 4.00

Required Qty: 4.00

Comments: Ipp Rev:A New Issue 10-05-31 JLM Verified By:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2761-108 		Manufactured	No			100	f	221.5800	0.333333333	1.403509			
Extrusion (HPK)													

Location

Loc Qty

Loc Code

MAT07

221.58

8323

221.58

10.1000<sup>ft</sup> B.A 10/11/01  
2-5 At sk 10/11/01

DART AEROSPACE LTD		Work Order: 63047
Description: Maintenance Shop		Part Number: 14092-1
Inspection Dwg: 14092	Rev: A PBI	Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

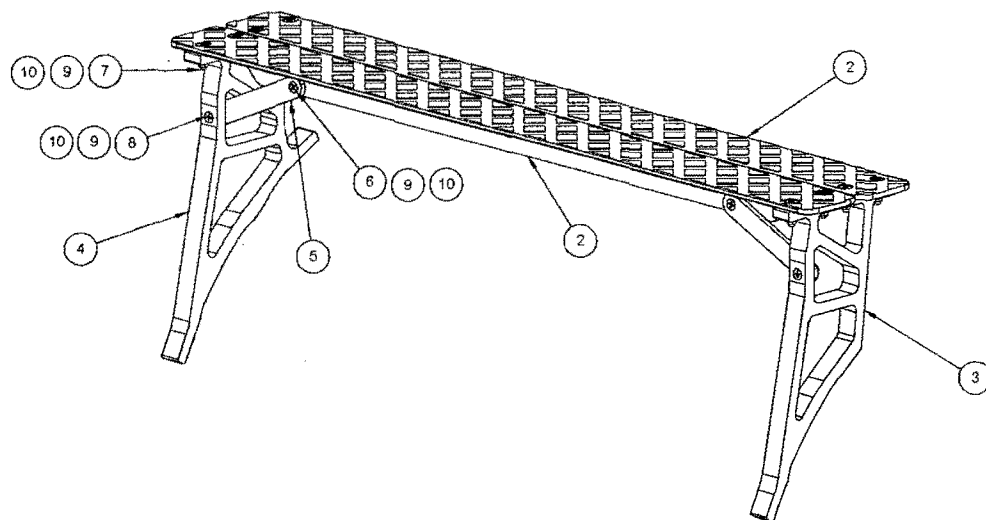
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
30.06	$\pm .030$	30.06	/		Tape	OK-1
250	$\pm .030$	2.499	/		Veru	OK-5
.25 ref	$\pm .030$	.25	/			
1.38	$\pm .030$	1.372	/			
1.25	$\pm .030$	1.245	/			
.12	$\pm .030$	.186	/			
R.50	$\pm .030$	R.50	/			
.20	$\pm .030$	.201	/			
.030 id	$\pm .010$	.033	/			
1.500	$\pm .010$	1.500	/			
.50	$\pm .030$	.50	/			
1.25	$\pm .030$	1.25	/			
.69	$\pm .030$	.686	/			
Ø.201	$\pm .006$	Ø.202	/			
Ø.50	$\pm .030$	Ø.50	/			
Ø.370x100°	$\pm .010$	Ø.380x105	/			
.30	$\pm .030$	.302	/			

Measured by: SA	Audited by: H.A	Preliminary Approval: -
Date: 10/11/01	Date: 10/11/0	Date: -

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15

ITEM	QTY -041	PART NUMBER	DESCRIPTION
1	X	D4092-041	MAINTENANCE STEP ASS'Y
2	2	D4092-1	MAINTENANCE STEP
3	1	D4093-1	BRACKET
4	1	D4093-3	BRACKET
5	2	D4093-5	BRACE
6	2	MS24694-S54	SCREW
7	8	MS24694-S55	SCREW
8	2	MS24694-S56	SCREW
9	12	NAS1149D0332J	WASHER
10	12	MS21042L3	NUT



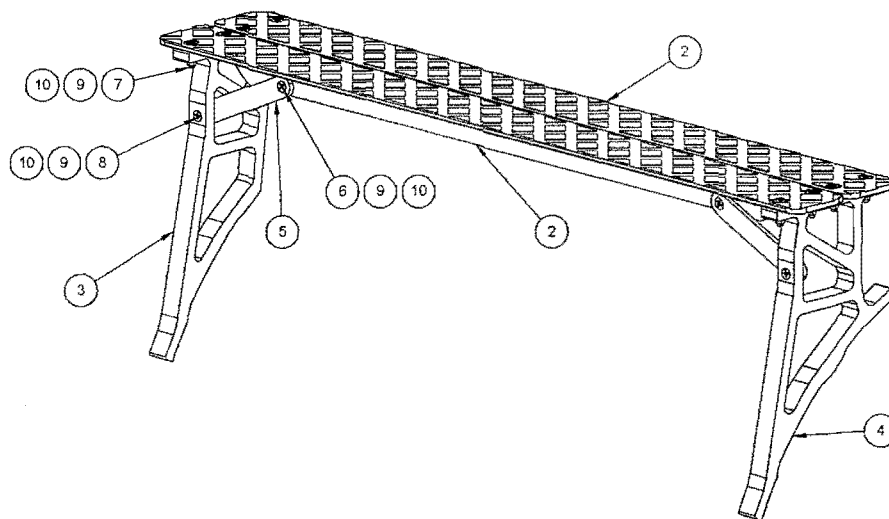
**D4092-041 MAINTENANCE STEP ASS'Y**

**PRELIMINARY ISSUE**

**10.10.04**

PB1	ADD DIMENSIONS (ZN B8-6 & B5-6)	RF	10.10.04
A	NEW ISSUE	RF	10.09.16
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA	
DRAWN	RF		
CHECKED		DRAWING NO.	REV. PB1
MFG. APPR.		D4092	SHEET 1 OF 6
APPROVED		TITLE	SCALE
DE APPR.		MAINTENANCE STEP ASSY	NTS
DATE	10.10.04	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR EXPOSED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	





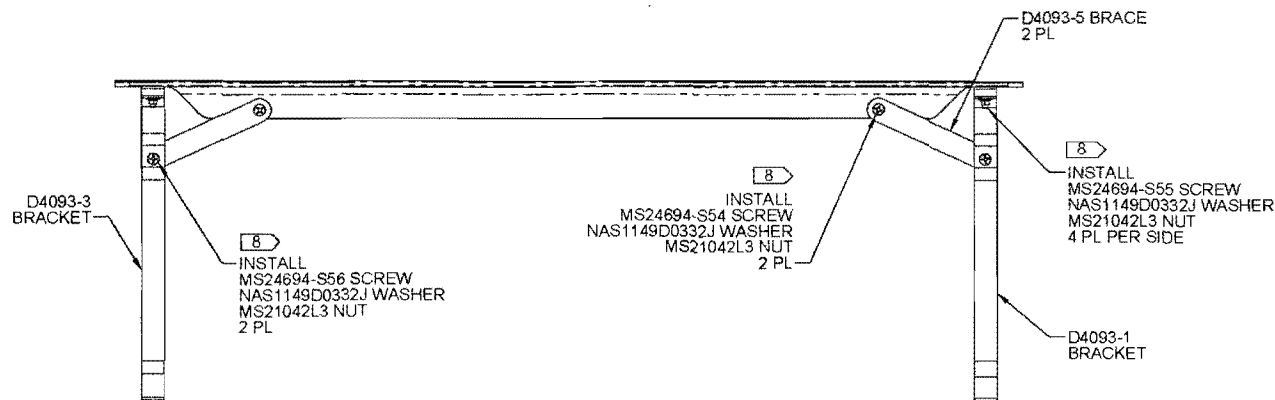
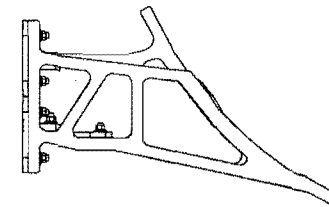
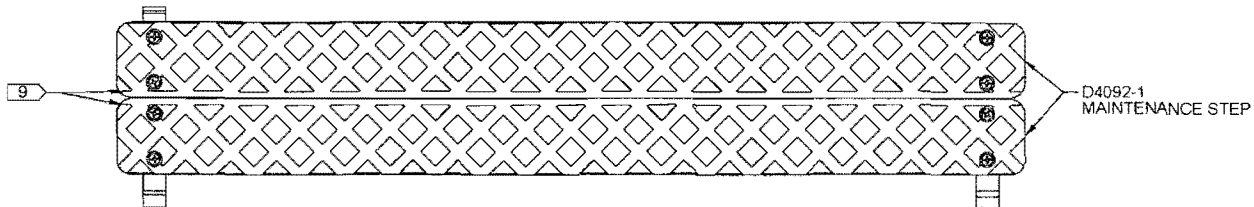
**D4092-042 MAINTENANCE STEP ASS'Y**

ITEM	QTY -042	PART NUMBER	DESCRIPTION
1	X	D4092-042	MAINTENANCE STEP ASSY
2	2	D4092-1	MAINTENANCE STEP
3	1	D4093-1	BRACKET
4	1	D4093-3	BRACKET
5	2	D4093-5	BRACE
6	2	MS24694-S54	SCREW
7	8	MS24694-S55	SCREW
8	2	MS24694-S56	SCREW
9	12	NAS1149D0332J	WASHER
10	12	MS21042L3	NUT

**PRELIMINARY ISSUE**

*W/O 63047*  
 10.10.04

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA	
DRAWN	RF		
CHECKED		DRAWING NO. <b>D4092</b>	REV. PB1
MFG APPR			SHEET 2 OF 6
APPROVED		TITLE	SCALE
DE APPR		<b>MAINTENANCE STEP ASS'Y</b>	NTS
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w/o 63047

# **D4092-041 MAINTENANCE STEP ASS'Y**

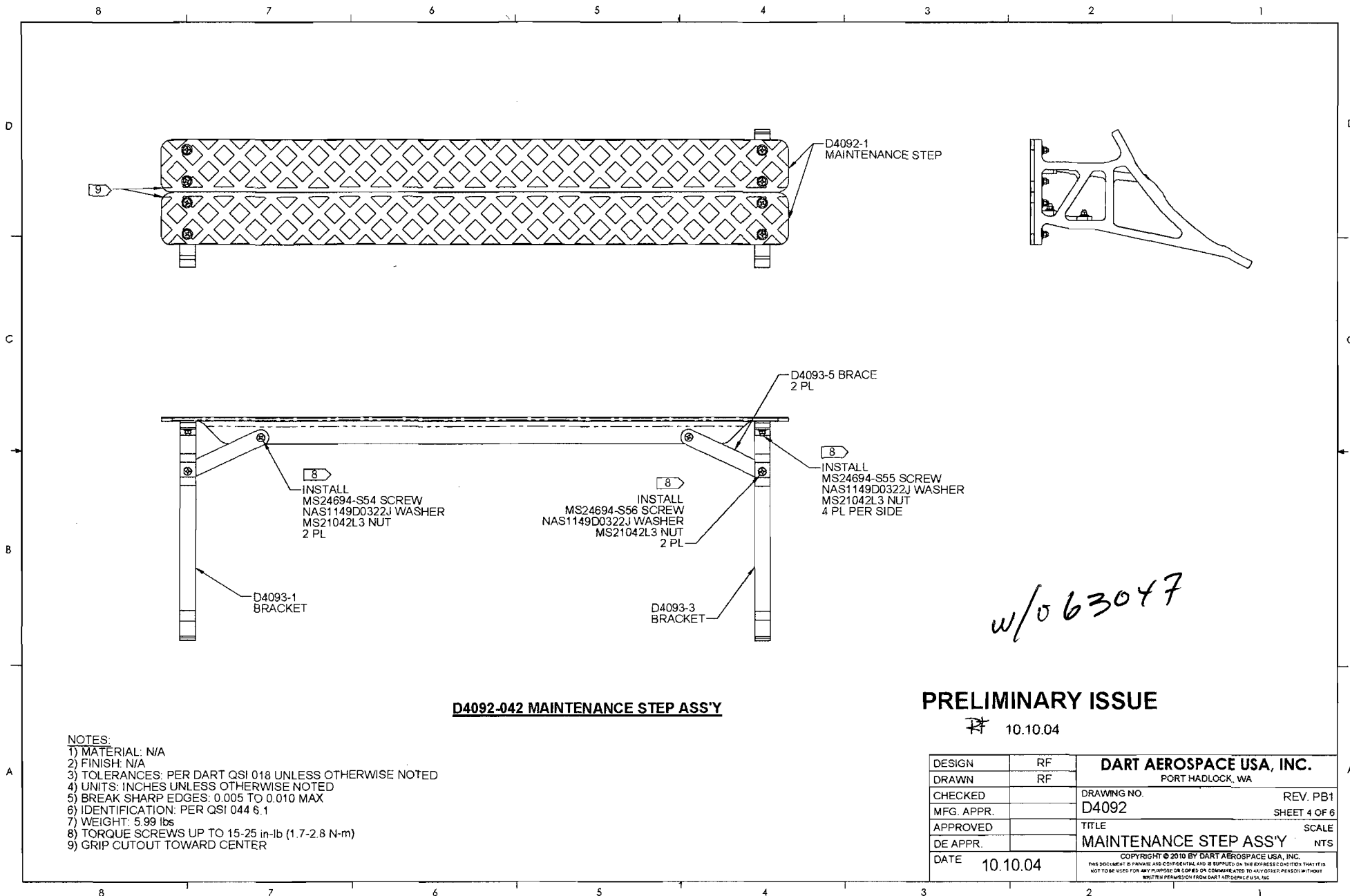
## **PRELIMINARY ISSUE**

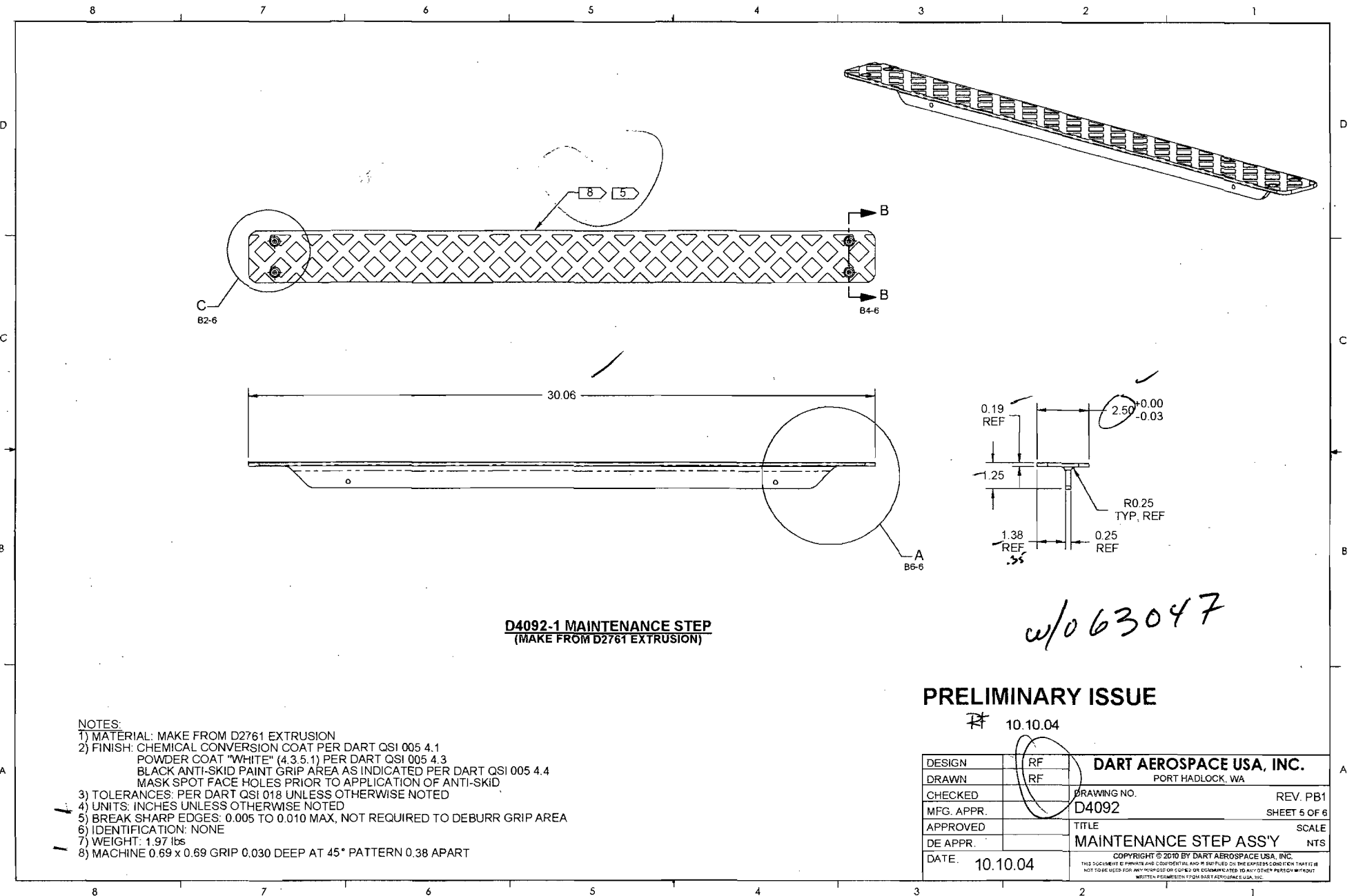
10.10.04

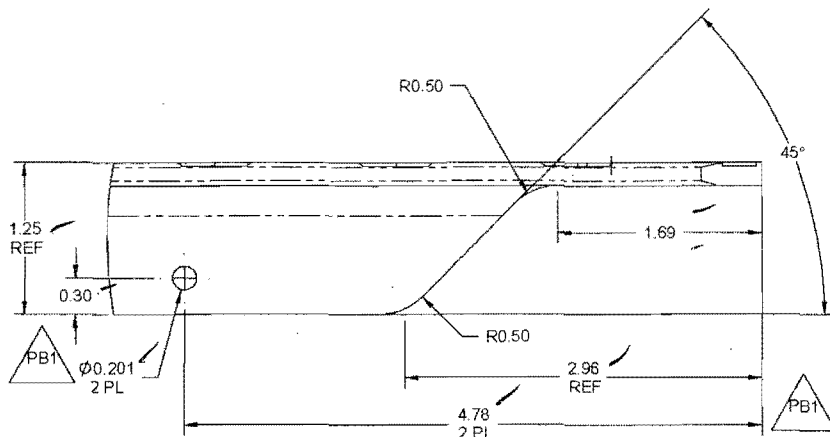
### **NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 6.01 lbs
- 8) TORQUE SCREWS UP TO 15-25 in-lb (1.7-2.8 N-m)
- 9) GRIP CUTOUT TOWARD CENTER

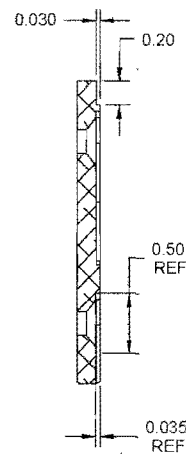
DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. PB1
MFG. APPR.		D4092	SHEET 3 OF 6
APPROVED		TITLE	SCALE
DE APPR.		MAINTENANCE STEP ASSY	NTS
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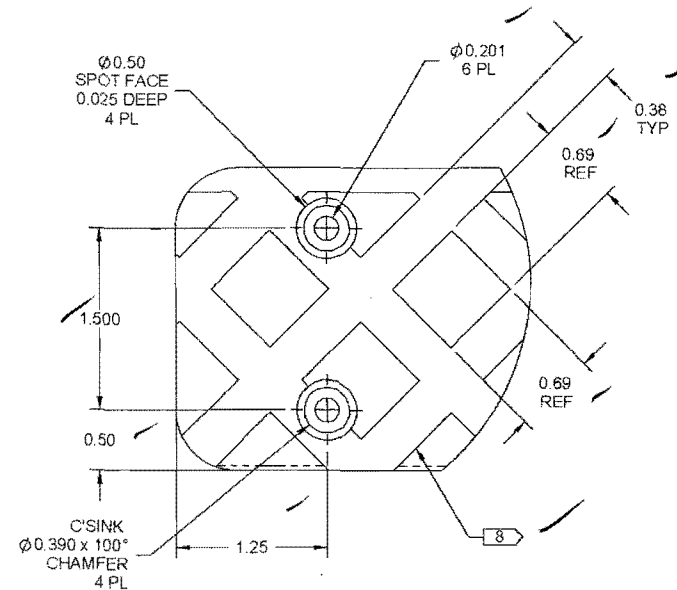




**DETAIL A** 83-5  
SCALE 4X, TYP



**SECTION B-B** C3-5  
SCALE 4X, TYP



**DETAIL C** C7-5  
SCALE 4X, TYP

W/O 63047  
**PRELIMINARY ISSUE**  
# 10.10.04

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. PB1
MFG. APPR.		D4092	SHEET 6 OF 6
APPROVED		TITLE	SCALE
DE APPR.		MAINTENANCE STEP ASSY	NTS
DATE	10.10.04	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OTHER THAN FOR WHICH IT WAS ORIGINALLY INTENDED WITHOUT PERMISSION FROM DART AEROSPACE USA, INC.	

<b>DART AEROSPACE LTD</b>	<b>Work Order :</b>	<b>B8323</b>
<b>Description: Extrusion</b>	<b>Part Number:</b>	<b>D2761</b>
Dwg: D2761 Rev. A	<b>Qty:</b>	<b>27</b>

Step	Location	Procedure	By	Date
1	EXPEDITING	OPEN W/O	<i>CS</i>	98.10.08
2	PURCHASING	Issue P/O: <u>2000966</u> a) Extrude as per Dwg D2761 b) Material: 6061-T6 (QQ-A-200/8) c) Tool: MS-19021 d) Material certification is required	<i>Ky</i>	98.10.08
3	QC	Inspect for freight damage and check test report is attached	<i>DM</i>	98.11.19
4	QC	Inspect Level 6 Check Test Report to Dwg D2761 for compliance	<i>DM</i>	98.11.19
5	STORES	Tag and stock.	<i>DM</i>	98.11.19
6	EXPEDITING	CLOSE W/O ✓ Cost / Job <u>23.25</u>	<i>CS</i>	98.11.26

Rev	Date	Change	Created By	Approved
A	98.05.08	New Issue	<i>CS</i>	<i>CS</i>

#### MANUFACTURER RELEASE CERTIFICATION

D.O.T Approval 9-89

The aeronautical product described hereon conforms to approved type design data and is in a condition for safe operation.

*Shepherd*  
Inspector

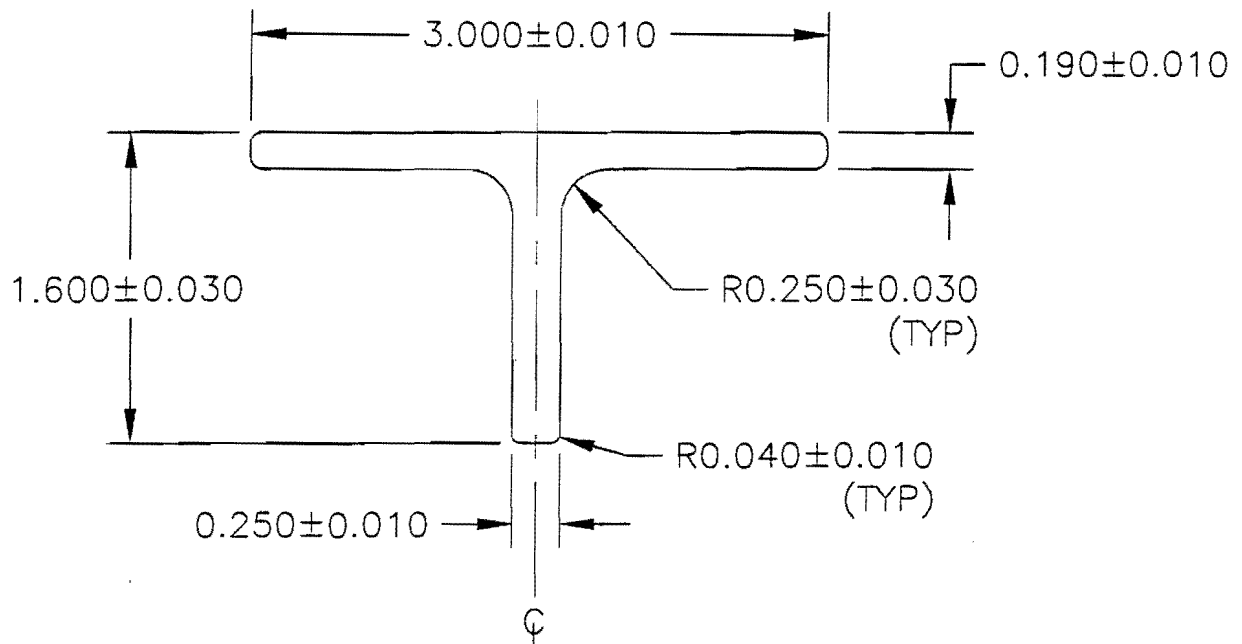
Date 98.11.26 Authorized



DESIGN <i>KE</i>	DRAWN BY <i>KE</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>MOY</i>	APPROVED <i>JS</i>	DRAWING NO. D2761	REV: A SHEET 1 OF 1
DATE 98.03.16		TITLE EXTRUSION	SCALE 1:1
A	98.03.16	NEW ISSUE	

**RELEASED**  
95/04/03 KE

WORK ORDER  
NO. B8323



MATERIAL: 6061-T6 (QQ-A-200/8).

NO TOOLING ID MARK.

EXTRUSION IS SYMMETRIC ABOUT CL.

**SHOP COPY  
RETURN TO  
ENGINEERING**

## Rapport des propriétés mécaniques Mechanical Properties Test Report

Client / Customer : **DART AEROSPACE LTD**  
Adresse / Address : **1270 ABERDEEN STREET  
HAWKESBURY ONT, K6A 1K7**

# commande Indalex / Indalex order # : **8101485**  
# bon de commande / Purchase order # : **2000966**  
# de matrice / Die # : **MS 19021** Description : **HELICOPTER RAFTERS**  
Alliage & trempage / Alloy & temper : **6061 T-6**  
# de coulée / Cast # : **19557**  
# de contrôle / Control # : **3398-1**

Composition chimique typique / Typical chemical composition :

**Si:0.72-0.76/ Fe:0.20-29/ Cu:0.24-0.28/ Mn:0. 0.06-0.10/ Mg:0.84-0.88/ Cr:0.05-0.09/ Zn:0.08max /Ti:0.04max**

Dureté Rockwell E / Rockwell E Hardness : **92 HRE**

	Min.requis Min.required	Résultat actuel Actual results
Contrainte élastique Yield stress (psi)	<b>35 000</b>	<b>36 447</b>
Tension ultime Ultimate stress (psi)	<b>38 000</b>	<b>42 812</b>
% élongation dans 2" % elongation in 2"	<b>8</b>	<b>16</b>


**\*\* Rupture hors de la moitié du milieu de la section de mesure / Broke outside of the middle half of the gauge length**

Nous certifions que le matériel fourni rencontre les exigences chimiques telles qu'annoncées par l'Association de l'Aluminium ainsi que les exigences de nos procédures de contrôle de qualité.

We hereby certify that the material supplied meets the chemical properties as published by the Aluminum Association, and requirements of our quality control procedures.

Sincèrement vôtre,  
Yours truly,

date : **98/11/04**

  
Maxime Guérin  
Superviseur de la qualité  
Quality supervisor

CARADON INDALEX, Div.de Caradon Ltée